What is claimed is:

1. A solid oxide fuel cell device comprising:

(a) zirconia based electrolyte;

(b) at least one electrode situated on said electrolyte;

(c) a component situated in close proximity to said electrolyte, said component comprising at least one metal or metal oxide capable of, at temperatures of above 625°C,

(i) migrating to the surface of said component, and

(ii) being re-deposited on said at least one electrode;

(d) a protective coating situated on at least one surface of said component, said coating substantially preventing said at least one metal or metal oxide from leaving the surface, of said component, which is situated under said protective coating, said protective coating also being substantially impermeable to oxygen.

2. The solid oxide fuel cell device of claim 1, wherein said protective coating is less than 100 μm thick.

3. The solid oxide fuel cell device of claim 1, wherein said protective coating is 1 μm to 30 μm thick.

4. The solid oxide fuel cell device of claim 1, wherein said protective coating is 5 μm to 20 μm thick.

5. The solid oxide fuel cell device of claim 1, wherein said at least one metal is Cr and said protective coating is selected from a group consisting of (Al_2O_3, glass, zirconia and ytria-stabilised zirconia, oxides of magnesium, titanium and zinc).

6. The solid oxide fuel cell device of claim 5, wherein said coating is 1 μm to 100 μm thick.

7. The solid oxide fuel cell device of claim 1, wherein at least 90% of the electrode surface area is not covered by the oxide of said at least one metal.

8. The solid oxide fuel cell device of claim 1, wherein said protective coating is a non-electrically conductive coating.

9. A solid oxide fuel cell device comprising:

(a) zirconia based electrolyte;

(b) at least one cathode situated on said electrolyte;

(c) a metal frame supporting said electrolyte, said metal frame comprising at least one metal which at temperatures of above 625°C, is capable of:

(i) migrating to the surface of said frame,

(ii) oxidizing; and

(iii) being re-deposited in the oxide form on said at least one cathode;

(d) a protective coating situated on said stainless steel frame, said coating substantially preventing said metal from leaving said of said metal frame, said coating also being substantially impermeable to said metal or to oxygen.

10. The solid oxide fuel cell device of claim 9, wherein said coating is 1 μm to 100 μm thick.

11. The solid oxide fuel cell device of claim 9, wherein metal frame is a stainless steel metal frame, said at least one metal is Cr, and said protective coating is selected from a group consisting of: Al_2O_3, glass, zirconia and yttria-stabilized zirconia.

12. The solid oxide fuel cell device of claim 11, wherein said coating is an electrically non-conductive coating with a thickness of 1 μm to 100 μm.

13. The solid oxide fuel cell device of claim 11, wherein at least 70% of the coating surface is not covered by chrome.

14. The solid oxide fuel cell device of claim 11, wherein at least 85% of the coating surface is not covered by chrome.

15. The solid oxide fuel cell device of claim 11, wherein at least 90% of the coating surface is not covered by chrome.

16. The solid oxide fuel cell device of claim 9, wherein said metal frame has a coefficient of thermal expansion CTE of $10x10^{-6}/°C$ to $12.5x10^{-6}/°C$.

17. The solid oxide fuel cell device of claim 16, wherein said metal frame has a CTE of $11x10^{-6}/°C$ to $12x10^{-6}/°C$.

18. The solid oxide fuel cell device of claim 17, wherein said metal frame has a coefficient of thermal expansion CTE of $11.2x10^{-6}/°C$ to $11.7x10^{-6}/°C$.

19. The solid oxide fuel cell device of claim 9, wherein said protective coating is a non-electrically conductive coating and said metal frame is not an electrical connector.

20. A method for making a solid oxide fuel cell device comprises the steps of:

(a) providing a zirconia based electrolyte having at least one cathode situated on said electrolyte;

(b) providing a component having a protective coating on at least one surface of said component, said component being situated in close proximity to said electrolyte, said component comprising at least one metal capable of, at temperatures of above 625°C, in absence of said protective coating

(i) migrating to said surface of said component,

(ii) oxidizing, and

(iii) being re-deposited as said metal or an oxide of said metal on said at least one cathode; and wherein protective coating substantially prevents said at least one metal or the oxide of said metal from leaving said surface, said coating also being substantially impermeable to oxygen.

21. The method for making a solid oxide fuel cell device according to claim 20, wherein said step of providing a component having a protective coating on at least one surface further comprises: (i) coating a surface of said component with 1 μm to 100 μm coating that when oxidized will become impenetrable to oxygen; (ii) oxidizing this coating to obtain said protective coating.

22. The method for making a solid oxide fuel cell device according to claim 21, wherein said coating step includes depositing aluminum on said surface and said oxidation step results in a dense aluminum oxide coating.

23. The method for making a solid oxide fuel cell device according to claim 21, wherein said oxidation step is selected from a group consisting of: electro chemical oxidation and thermal oxidation.